The 9th Meeting of the NAI TDE Focus Group was held at the Observatory of Côte d'Azur (OCA) in Nice (France) from October 12–18, 2015. This workshop was sponsored by the OCA, the Centre national de la recherche scientifique (CNRS), the Université Nice Sophia Antipolis, and the NASA Astrobiology Institute. TDE workshops are often focused on one particular topic of interest to members; this meeting was the first TDE workshop to be focused on Exoplanetary Atmospheres and Habitability, and was designed to inspire discussions about the connection between planetary habitability and its atmospheric disequilibrium, through the use of thermodynamic functions. There were a total of 31 invited talks in three sessions: *Chemical disequilibrium in planetary atmospheres: from hot Jupiters to habitable planets*; *Icy moons, icy planets and the conditions for the emergence of life*; and *Modeling and observations of exoplanetary atmospheres: chemistry and physics*. Along with invited talks we also had a tour of the observatory led by members of the OCA, where we visited the architectures of Charles Garnier and Gustave Eiffel, the Grand Equatorial telescope (18 m long, 76 cm lens' diameter) and the "elbow" meridian telescope.

About 35-40 attendees were present at the workshop each day, and this TDE meeting had our highest participation of participating early-career scientists to date (30 postdocs, Ph.D. students, and even some undergraduates). Many of these early-career scientists were from Europe, and the TDE FG increased membership by ~20 new members. The meeting was also broadcast over Adobe Connect which yielded about a 15% increase in attendees per day. Aside from formal presentations, the schedule was designed to allow ample time for discussion and collaboration. The informal atmosphere of the TDE helped very much their participation in the moments of discussion, and many of the participating young scientists wish to return to future TDE meetings.

The TDE co-organizers presented an introduction to the focus group on the first day of the workshop, encouraging attendees to use the discussion time throughout the week to form new TDE-related collaborations and continue existing collaborations that were initiated at the 8th TDE meeting in Tokyo and earlier. The participants developed a "wishlist" for advancements to be made in exoplanetary atmospheres and habitability studies, including: Observational efforts (spectral studies at high temperature, prioritize best wavelengths for observation with feedback from models), modeling efforts (thermodynamics of gaseous S and P species; open source codes that can "talk to each other", simulating exoplanet bio-geo-atmospheric interactions, 3D planetary models for vertical and horizontal mixing), and Theoretical efforts to unify modeling and experimentation to understand disequilibrium on wet rocky planets (re-defining life and disentangle observable abiotic from biotic signatures). The last session of the meeting was a TDE Focus Group discussion to collect all new collaborative efforts, fundraising and organizational strategies, and develop action items to be revisited at the next TDE meeting in 2016.

New collaborations started between the OCA and the Astrophysical observatory of Arcetri (Italy). In a more broad view, the TDE is actually helping people from several countries (Italy, France, USA, Japan, Denmark) in developing theoretical and computation tools for the study of planetary habitability. In particular, Dr. Andrea

Chiavassa from OCA started studying the influence of solar radiation fluctuation on the atmospheric composition of habitable rocky planets (in collaboration with Dr. E. Simoncini, OAA, Italy). Moreover, Dr. Yamila Miguel from OCA started a collaboration on the modeling of rocky exoplanets and their habitability from thermodynamic disequilibrium point of view (in collaboration with Dr. E. Simoncini, OAA, Italy, and T. Grassi, Starplan, Denmark).